

PROCESS FOR PRODUCTION OF SOI SUBSTRATE AND  
PROCESS FOR PRODUCTION OF SEMICONDUCTOR DEVICE

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BACKGROUND OF THE INVENTION

1. Field of the Invention:

The present invention relates to a process for production of a thin-film transistor (TFT for short hereinafter) with single-crystal semiconductor thin film formed on a substrate having an insulating surface. The present invention relates also to a process for production of a semiconductor device containing semiconductor circuits constructed of TFTs.

The term "semiconductor device" as used in this specification embraces any device that utilizes semiconductor characteristics for its functions. To be more specific, it includes electro-optical devices typified by liquid crystal displays, semiconductor circuits formed by integration of TFTs, and electronic machines and equipment containing as parts such electro-optical devices and semiconductor circuits.

2. Description of the Relates Art:

The recent rapid progress in VLSI technology has yielded SOI (silicon on insulator) which is attracting attention because of its low power consumption. This technology differs from the conventional one in that the bulk single-crystal silicon that forms the active region (or channel-forming region) of FET is replaced by thin-film single-crystal silicon.

An SOI substrate consists of single-crystal silicon and thin film of single-crystal silicon formed thereon, with a buried silicon oxide film interposed between them. There are several known methods for its production. A new